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more direct method of obtaining the desired properties, but it resulted in smaller amounts of additives being utilized, saving time, money and raw materials. This provides for another tool to be utilized when changes in other methods are insufficient.

While particular embodiments of the gypsum panels have been shown and described, it will be appreciated by those skilled in the art that changes and modifications may be made thereto. Unless otherwise noted, features of specific embodiments may be combined with any other features described. Unless otherwise noted, all ratios or percentages expressed herein are intended to be based on weight. The term "or" is intended to be inclusive of combinations of elements in a given list. These and other modifications may be made without departing from the invention in its broader aspects and as set forth in the following claims.

What is claimed is:

1. A building panel comprising:

a panel body with core voids comprising:

a calcium sulfate dihydrate matrix;

a dispersant component selected from the group consisting of a comb-branched polymer having polyether side chains, naphthalene sulfonate-formaldehyde condensate, melamine sulfonate-formaldehyde condensate and mixtures of two or more thereof;

a foaming agent; and

a polycondensation component comprising:

a first polycondensation repeating unit having a polyether side chain and one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit;

a second polycondensation repeating unit having a OP(OH)_2 group and one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit; and

a third polycondensation repeating unit having one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit;

wherein said second polycondensation repeating unit and said third polycondensation repeating unit differ exclusively in that the OP(OH)_2 groups of said second polycondensation repeating unit are replaced by H in said third polycondensation repeating unit, and said third polycondensation repeating unit is not the same as said first polycondensation repeating unit; and

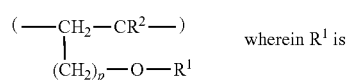
wherein the weight ratio of the dispersant component to the polycondensation component ranges from 1:99 to 75:25.

2. The panel of claim 1 wherein one of the group consisting of said dispersant component, said polycondensation component or both further comprises an antifoaming component.

3. The panel of claim 1 wherein said dispersant component is said comb-branched copolymer having polyether side chains and comprises:

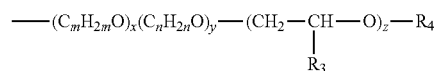
at least one first polycarboxylate repeating unit derived from an olefinically unsaturated monocarboxylic acid comonomer or an ester or a salt thereof and an olefinically unsaturated sulfonic acid comonomer or a salt thereof; and

at least one second polycarboxylate repeating unit of the general formula (I)

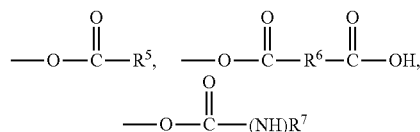


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and R^2 is H or an aliphatic hydrocarbon radical having 1 to 5 C atoms; R^3 is an unsubstituted or substituted aryl radical and R^4 is H, an aliphatic hydrocarbon radical having 1 to 20 C atoms, a cycloaliphatic hydrocarbon radical having 5 to 8 C atoms, a substituted aryl radical having 6 to 14 C atoms, or one of the group consisting of



wherein R^5 and R^7 each represent an alkyl, aryl, aralkyl or alkaryl radical;

R^6 represents an alkylidene, arylidene, aralkylidene or alkarylidene radical;

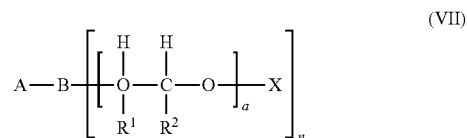
$p=0, 1, 2, 3$ or 4 ; m and n each, independently of one another, is $2, 3, 4$ or 5 ;

x and y each, independently of one another, is an integer ≤ 350 ; and z is from 0 to about 200 ; and

wherein either the first and second polycarboxylate repeating units have no internal molecular differences or said first and second polycarboxylate repeating units have internal molecular differences with respect to at least one of said radicals R^1 ; R^2 ; R^3 ; R^4 ; R^5 ; R^6 ; R^7 ; m ; n ; x ; y ; and z , and the differences relate to the composition and length of side chains.

4. The panel of claim 3, wherein said first polycarboxylate repeating unit is present in amounts of 30 to 99 mol % and said second polycarboxylate repeating unit is present in amounts of about 70 to about 1 mol % of the dispersant component.

5. The panel of claim 1, wherein said first polycondensation repeating unit of the polycondensation component is represented by Formula VII:



wherein A has 5 to 10 C atoms and is a substituted or unsubstituted aromatic or heteroaromatic compound; B is N, NH or O; n is 2 if B is N and n is 1 if B is NH or O; R^1 and R^2 each, independently of one another, is a branched or straight-chain C_1 - to C_{10} -alkyl radical, C_5 - to C_8 -cycloalkyl radical, aryl radical, heteroaryl radical or H; a is an integer from about 1 to about 300 , X is a branched or straight-chain C_1 - to C_{10} -alkyl radical, C_5 - to C_8 -cycloalkyl radical, aryl radical, heteroaryl radical or H;

wherein said second polycondensate repeating unit of said polycondensation component is represented by Formula (VIII):